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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,572	08/26/2003	Mark Clark Cesa	BP7969-01	4095

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EXAMINER	
SACKEY, EBENEZER O	
ART UNIT	**PAPER NUMBER**
1624	
MAIL DATE	**DELIVERY MODE**
08/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,572	CESA ET AL.	
	Examiner	Art Unit	
	EBENEZER SACKEY	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12, 14-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

Claims 1-12 and 14-18 are pending.

This is in response to applicant's amendment filed on 06/11/07.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/11/07 has been entered.

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-12 remain are rejected under 35 U.S.C. 103(a) as being unpatentable over Presson et al., (U.S.Patent number 4,362,603), Schaller et al., (German Patent number DD 259 530) and Campbell et al., (U.S.Patent number 3,313,726) in combination for the reasons set forth in the previous office action mailed on 12/07/06.

Response to Amendment

Applicant's arguments filed 06/11/07 have been fully considered but they are not deemed persuasive. Applicants argue that the purity of the 99+% acetonitrile product from Presson et al., is insufficient to meet the stringent HPLC acetonitrile specification of the current process. In response, there is no indication by way of evidence or otherwise to ascertain applicants claim that the product from Presson is unsuitable for HPLC. Therefore, applicants need to provide evidence to support their assertion that the acetonitrile product of Presson et al., contains impurities and hence would not be suitable for HPLC and does not posses a UV cutoff for impurities of <190 nm. Applicants next argue that the current reflux ratios produces a product that is suitable

for HPLC over the product of Presson and a Declaration from Dr. Mark C. Cesa, submitted with the current amendment attests to the difference in acetonitrile purity. The Declaration filed under 37 CFR 1.132 filed 06/11/07 is insufficient to overcome the rejection of claims 1-12 based upon Presson, Schaller and Campbell, applied under 35 U.S.C 103 as set forth in the last two previous Office actions because: the showing is not a side by side comparison between the instantly produced acetonitrile and the acetonitrile prepared by Presson et al. A side-by-side comparison should be made between the current process and that of Presson to ascertain the purity and the cut off for impurities present in both processes. Note unexpected results must be established by comparing the claimed invention against the closest prior art. See *De Blauwe,* 736 F.2d at 705, 222 USPQ at 196 ('[A]n applicant relying on comparative tests to rebut a prima facie case of obviousness must compare his claimed invention to the closest prior art."); accord *In re Merchant,* 575 F.2d 865, 869, 197 USPQ 785, 788 (CCPA 1978). Applicants next argue that the Examiner is ignoring the explicit acetamide limitation of claim 1. Contrary to applicant's assertion, the Examiner is not ignoring the claimed limitation because it is assumed that Presson's purity of 99+% would of necessity include that limitation.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Presson et al., (U.S.Patent number 4,362,603), Schaller et al., (German Patent number DD 259 530) and Campbell et al., (U.S.Patent number 3,313,726) in combination.

Applicants claim a process of producing highly purified acetonitrile having an assay of at least 99.97% acetonitrile, comprising distilling crude acetonitrile in multistep distillation columns and under reflux conditions to remove acetonitrile and water

followed by acidic ion exchange resin treatment to remove all impurities from the acetonitrile thereby producing highly purified acetonitrile product. The reflux ratios of the various steps are noted.

Determination of the scope and content of the prior art (MPEP §2141.01)

Presson et al., teach a process similar to the instant process whereby 99+% pure acetonitrile is continuously recovered from crude acetonitrile containing acetonitrile and water, hydrogen cyanide and other organic impurities, said process comprises a multistep distillation column wherein all the impurities from the crude acetonitrile is removed thereby producing highly purified acetonitrile product. See the entire reference especially column 1, lines 39-68, column 3, lines 24-53 and claim 1.

Schaller et al., teach an ultra-purification of acetonitrile by fractional distillation. See the entire reference. Note the reference teaches a reflux stage in the process. See page 2, under working Example. Also note the reflux ratios.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between Presson and the instant process is that Presson does not teach the use of a reflux stage in the process and thus, is silent on that limitation in the process of purifying the acetonitrile product.

The difference between Schaller and the instant process is that Schaller does not teach the extra step of passing the highly purified acetonitrile through an ion exchange resin for further purification of the product. However, Campbell et al., discloses that removal of impurities in semi-refined nitriles may be accomplished by contacting the semi-refined nitrile with strongly acidic ion exchange resin. See column 1, lines 17-20. Campbell further discloses that purification of nitriles using ion exchange resin is well known in the art. See column 2, lines 34-49.

There is no teaching in the specification to ascertain what applicants consider being a "highly purified acetonitrile". The use of the phrase appears to be arbitrary without any teaching as to what the acceptable lower or upper limit of impurities in acetonitrile is. Thus, to the skilled artisan, the instant process is *prima facie obvious* over the cited art because Presson et al., disclose a similar process as stated above which results in 99.8% pure acetonitrile product. Additionally, the difference between instantly claimed purity of (99.97%) and Presson (99.8%) cannot be considered as a patentable difference.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2143)

Accordingly, one of ordinary skill in the art would have been motivated to prepare the instant acetonitrile product by manipulating process parameters such as the use of ion exchange resins and ratios with a reasonable expectation of success in that the resulting product(s) would maintain high yield because one of ordinary skill in the art would expect the use of ion exchange resin to result in the same product because Campbell discloses that the use of ion exchange resin in the purification of nitriles and said process is well-known. Moreover, with Presson et al., disclosing a similar process with a product purity of 99.8%, one of skill would expect such a process to remove almost all impurities in the product.

Thus, at the time of filing this application, one of ordinary skill in the art in possession of Presson, Schaller and Campbell is in possession of the instant invention barring a showing of unexpected results and/or properties.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. Sackey whose telephone number is (571) 272-0704. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reached on (571) 272-0661. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

EOS
August 29, 2007

James O. Wilson
Supervisory Patent Examiner
Art Unit 1624, Group 1600
Technology Center 1